

1. Convert Binary to Hexadecimal
  - A. 61F
  - B. 8FC
  - C. 1645
2. Convert signed binary to decimal
  - A. 1100 1010
    - a. Signed\_Magnitude = -74D
    - b. One's Complement = -53D
    - c. Two's Complement = -54D
  - B. 1111 0010
    - a. Signed\_Magnitude = -114D
    - b. One's Complement = -13D
    - c. Two's Complement = -14D
  - C. 1000 0111
    - a. Signed\_Magnitude = -7D
    - b. One's Complement = -120D
    - c. Two's Complement = -121D
3. Convert decimal to two's complement
  - A. -100D
    - a. Signed\_Magnitude = 11100100
    - b. One's Complement = 10011011
    - c. Two's Complement = 10011100
  - B. -16D
    - a. Signed\_Magnitude = 10010000
    - b. One's Complement = 11101111
    - c. Two's Complement = 11110000
  - C. -21D
    - a. Signed\_Magnitude = 10010101
    - b. One's Complement = 11101010
    - c. Two's Complement = 11101011
  - D. -0D
    - a. Signed\_Magnitude = 10000000
    - b. One's Complement = 11111111
    - c. Two's Complement = 00000000
4. Range of 7-bit number
  - A. 0 - 127
  - B. -64 - 63
5. Truth Table
  - A. 1000
  - B. 1110
  - C. 1000
6. Hexadecimal ASCII value
  - A. g
    - a. Binary: 0110 0111
    - b. Hexadecimal: 67
  - B. ^
    - a. Binary: 0101 1110
    - b. Hexadecimal: 5E
  - C. \$
    - a. Binary: 0010 0100

b. Hexadecimal: 24

7. Arithmetic Operation 25 - 65

A. Binary Conversion

a. 25

1. 00011001(sm)

2. 01100110(1's)

3. 00011001(2's)

b. -65

1. 11000001(sm)

2. 10111110(1's)

3. 10111111(2's)

B. Procedure

a. 00011001

$$\begin{array}{r} 00011001 \\ +10111111 \\ \hline 11011000 \end{array}$$

11011000 to 1's = 11010111

11010111 to sm = 10101000

(10101000)<sub>b</sub> = (-40)<sub>d</sub>